

This Class 360 is considered to be an integral part of Class 369 (see the Class 369 schedule for the position of this Class in schedule hierarchy). This Class retains all pertinent definitions and class lines of Class 369.

1        **RECORDING ON OR REPRODUCING FROM  
          AN ELEMENT OF DIVERSE UTILITY**  
2        .Card  
3        .Motion picture film  
4        **MANUAL INPUT RECORDING**  
5        **RECORDING FOR SELECTIVE RETENTION  
          OF A SPECIAL OCCURRENCE**  
6        **RECORDING COMBINED WITH METERING  
          OR SENSING**  
7        **RECORDING FOR MONETARY DELAY OF  
          AN ANALOG SIGNAL**  
8        **RECORDING FOR CHANGING DURATION,  
          FREQUENCY OR REDUNDANT CONTENT  
          OF AN ANALOG SIGNAL**  
12       **RECORDING OR REPRODUCING FOR  
          AUTOMATIC ANNOUNCING**  
13       **RECORD EDITING**  
15       **RECORD COPYING**  
16       .Contact transfer  
17       ..With magnetic bias  
18       **RECORDING OR REPRODUCING PLURAL  
          INFORMATION SIGNALS ON THE  
          SAME TRACK**  
20       .Frequency multiplex  
21       .Head gap azimuth multiplex  
22       **SPLITTING ONE INFORMATION SIGNAL  
          FOR RECORDING ON PLURAL  
          DISTINCT TRACKS OR REPRODUCING  
          SUCH SIGNAL**  
23       .Time division  
24       **SPLITTING, PROCESSING AND  
          RECOMBINING ONE INFORMATION  
          SIGNAL FOR RECORDING OR  
          REPRODUCING ON THE SAME TRACK**  
25       **CHECKING RECORD CHARACTERISTICS  
          OR MODIFYING RECORDING SIGNAL  
          FOR CHARACTERISTIC  
          COMPENSATION**  
26       **ELECTRONICALLY CORRECTING PHASING  
          ERRORS BETWEEN RELATED  
          INFORMATION SIGNALS**

27       **RECORDING OR REPRODUCING AN  
          INFORMATION SIGNAL AND A  
          CONTROL SIGNAL FOR CONTROLLING  
          ELECTRONICS OF REPRODUCER**  
28       .Reference carrier to control  
          demodulator  
29       **MODULATING OR DEMODULATING**  
30       .Frequency  
31       **MONITORING OR TESTING THE  
          PROGRESS OF RECORDING**  
32       **CONVERTING AN ANALOG SIGNAL TO  
          DIGITAL FORM FOR RECORDING;  
          REPRODUCING AND RECONVERTING  
          GENERAL PROCESSING OF A DIGITAL  
          SIGNAL**  
39       .In specific code or form  
40       ..Nonreturn to zero  
41       ..Phase code  
42       ..Multi-frequency  
43       ..Intra-cell transition  
44       .Pulse crowding correction  
45       .Head amplifier circuit  
46       .Redundant or complimentary  
47       tracks  
48       .Data in specific format  
49       .Address coding  
50       .Inter-record gap processing  
51       .Data clocking  
52       ..With incremental movement  
          between record and head  
53       .Data verification  
54       .Data recirculation  
55       **GENERAL RECORDING OR REPRODUCING**  
57       .Selective erase recording  
58       .Boundary displacement recording  
          or transducers  
59       .Thermomagnetic recording or  
          transducers  
60       .Recording-or erasing-prevention  
61       .Signal switching  
62       ..Record-reproduce  
63       ..Between plural stationary heads  
64       ..Between heads in alternate  
          engagement with medium  
65       .Specifics of equalizing  
66       .Specifics of biasing or erasing  
67       .Specifics of the amplifier  
68       ..Recording amplifier  
69       **AUTOMATIC CONTROL OF A RECORDER  
          MECHANISM**  
70       .Synchronizing moving-head  
          moving-record recorders  
71       .Controlling the record

72.1	..Locating specific areas	77.15	.....Plural pilot signals along single transverse path
72.2	...Responsive to recorded address	77.16	.....Having head deflection drive (e.g., piezoelectric bimorph)
72.3	...Responsive to tape transport	77.17	.....Dithering
73.01	..Speed	78.01	..Track changing
73.02	...Control of relative speed between carriers	78.02	...Tape
73.03	...Rotary carrier	78.03	....Plural tapes
73.04	...Linear carrier	78.04	...For rotary carrier (e.g., disc)
73.05	....Plural speed transport	78.05	....Coarse and fine head drive motors
73.06	.....Automatic change between fixed speeds	78.06	....Specified velocity pattern during access
73.07	.....Automatic selection of carrier or track speed	78.07	.....Controlled by memory device
73.08	.....Variable speed	78.08	....Specified spatial pattern during access
73.09	....Constant speed	78.09	....Including model of servo system or element
73.11	.....By reproduced control signal and transport derived signal	78.11	....Including nonmagnetic position sensing
73.12	.....By reproduced control signal	78.12	....Including particular head actuator
73.13	.....From separate track	78.13	.....Stepping motor
73.14	.....By signal derived from transport	78.14	....By recorded servo reference or address signal
74.1	..Stopping or reversing	78.15	....Drum
74.2	...Responsive to reel rotation	79	<b>RECORDER CONTROL OF AN EXTERNAL DEVICE</b>
74.3	...Responsive to tape tension	80	.Slide or movie projectors
74.4	...Responsive to magnetic recorded signals	81	<b>RECORD TRANSPORT WITH HEAD MOVING DURING TRANSDUCING</b>
74.5	...Responsive to physical property of record	82	.Belt record
74.6	....Photoelectric	83	.Tape record
74.7	....Conductive	84	..Rotating head
75	.Controlling the head	85	...Tape in container
76	..Azimuth or skew	86	.Disk record
77.01	..Track centering	87	.Drum record
77.02	...Rotary carrier	88	<b>RECORD TRANSPORT WITH HEAD STATIONARY DURING TRANSDUCING</b>
77.03	....By nonmagnetic sensing (e.g., optical, capacitive)	89	.Wire record
77.04	....By memory storage of repeatable error or correction	90	.Tape record
77.05	....By servo signal component from carrier surface separate from information signal bearing surface	91	..Plural tapes
77.06	....Reproduced data signal used for tracking	92	...Tape in container
77.07	....By tracking signal recorded on or immediately beneath surface	93	..Tape in container
77.08	.....Distinct servo sector	94	...Transport accommodates different types
77.11	.....Continuous servo signal	95	...With tape extraction
77.12	...Elongated web carrier (i.e., tape)	96.1	...Plural reels
77.13	....Transverse scan path	96.2	....With dual capstan drive
77.14	.....By pilot signal	96.3	....Reel drive details
		96.4	.....With common capstan drive
		96.5	....Container mounting details

96.6	.....With pivotal holder	235.5	....Negative pressure type
97.01	.Disk record	235.6	.....Leading end detail
97.02	..Environmental control (e.g., air filter, temperature control)	235.7	.....Trailing end detail
97.03	...Plural disks	235.8	.....Rail surface detail
97.04	...Flexible disk	235.9	.....Rail side edge detail
98.01	..Plural disks	236	.....Cross rail detail
98.02	...Axially fixed flexible disks	236.1	.....Varying width rail
98.03	....With pneumatic partitioning of disks	236.2	.....Asymmetrical rail arrangement
98.04	...Changer	236.3	.....Three or more rails/pads
98.05	....Control detail	236.4	....Leading end detail
98.06	....Mechanical detail	236.5	....Trailing end detail
98.07	...Rotational drive detail	236.6	....Rail surface detail
98.08	...Seating of disks	236.7	....Rail side edge detail
99.01	..Flexible disk	236.8	....Varying width rail
99.02	...Loading or ejecting mechanism	236.9	....Asymmetrical rail arrangement
99.03	....Motorized	237	....Three or more rails/pads
99.04	...Rotational drive detail	237.1	....Partial contact
99.05	...Disk seating	240	<b>HEAD MOUNTING</b>
99.06	...Loading or ejecting mechanism	250	.For moving head into/out of transducing position
99.07	...Motorized	251	..Tape record having arcuate head retraction movement
99.08	..Rotational drive detail	251.1	..Tape record having linear head retraction movement
99.09	...Movable drive	251.2	...Driven by tape driver
99.11	...Stationary drive	251.3	...Cam type
99.12	..Disk seating	251.4	...Solenoid type
100.1	.Drum record	251.5	...Rotary head type
101	<b>HEAD TRANSPORT WITH RECORD STATIONARY DURING TRANSDUCING</b>	254	..Disk record
220	<b>FLUID BEARING RECORD SUPPORT</b>	254.1	...Flexible disk
221	.Tape record	254.2	...Arcuate track change type
221.1	..Liquid bearing	254.3	....Moving lifter
224	.Disk record	254.4	.....Lifter surface detail
230	<b>FLUID BEARING HEAD SUPPORT</b>	254.5	.....Adjustment detail
231	.Tape record	254.6	.....Actuator side detail
234	.Disk record	254.7	....Fixed lifter
234.1	..Liquid bearing	254.8	.....Lifter surface detail
234.2	..Flexible disk	254.9	.....Adjustment detail
234.3	..Air bearing slider detail	255	.....Actuator side detail
234.4	...IC/circuit component on slider	255.1	...Linear track change type
234.5	...Electrical attachment of slider/head	255.2	....Moving lifter
234.6	...Mechanical attachment of slider to its support	255.3	.....Lifter surface detail
234.7	...Head attachment to slider	255.4	.....Adjustment detail
234.8	....On/in side of slider	255.5	.....Actuator side detail
234.9	....In slot of rail	255.6	....Fixed lifter
235	....Signal winding mount/access detail	255.7	.....Lifter surface detail
235.1	...Slider material	255.8	.....Adjustment detail
235.2	....Rail material	255.9	.....Actuator side detail
235.3	....Body material	256	...Latch
235.4	...Air bearing surface detail	256.1	....Air vane
		256.2	....Magnetic
		256.3	....Electrically driven
		256.4	....Inertial

256.5	....Plural latches	270	.For moving head during transducing
256.6	....Adjustment detail	271	..Tape record having rotary head
260	.For shifting head between tracks	271.1	...Rotating drum
261	..Tape record having rotary head movement	271.2	....Axle bearing
261.1	..Tape record having linear head movement	271.3	.....Hydrodynamic
261.2	...Cam	271.4	....Axle seal
261.3	...Screw	271.5	....Head mount to drum
264	..Disk record	271.6	....Drum mounting
264.1	...Arcuate head movement	271.7	....Drum motor
264.2	....Electrical connection detail onto actuator arm	271.8	...Stationary drum
264.3	....Driver detail	271.9	....Electrical connection detail
264.4	.....Independent head movement	272	...Power supply
264.5	.....Plural drivers for each head	281	...Signal transfer to/from head
264.6	.....Band	281.1	....Transformer mounting detail
264.7	.....Voice coil	281.2	....Transformer axis parallel to axis of head rotation
264.8	.....Core detail	281.3	....Transformer axis perpendicular to axis of head rotation
264.9	.....Magnet detail	281.4	....Coil/winding detail
265	.....Winding detail	281.5	....Core detail
265.1	....Limiter/stop	281.6	....Electrical or magnetic shielding
265.2	....Bearing	281.7	....Electrical connection between head and rotary part of transformer
265.3	....Seal	281.8	....Plural transformers
265.4	....Radial	281.9	....Photoelectric
265.5	....Thrust	282	....Contact type transformer
265.6	....Mounting detail	274	..Disk record
265.7	....E block detail	290	.For adjusting head position
265.8	....Detail of coil support	291	..Tape record
265.9	....Detail of actuator arm supporting head suspension	291.1	...Cam adjuster
266	.....Arm shape	291.2	...Screw adjuster
266.1	.....Arm mounting	291.3	....Plural screws
266.2	...Linear head movement	291.4	...Rotary head
266.3	....Electrical connection detail onto actuator arm	291.5	....Adjustment of drum axis
266.4	....Voice coil	291.6	....Adjustable head mount
266.5	.....Carriage detail	291.7	.....Adjuster core detail
266.6	.....Guide detail	291.8	.....Adjuster coil detail
266.7	.....Core detail	291.9	.....Piezoelectric adjuster
266.8	.....Magnet detail	292	.....Plural piezoelectric adjusters
266.9	.....Winding detail	294	..Disk record
267	....Band	294.1	...Adjustment parallel to disk plane
267.1	....Cam	294.2	....Linear adjustment
267.2	....Rack	294.3	....Driver detail
267.3	....Screw	294.4	.....Piezoelectric adjuster
267.4	.....Screw/follower detail	294.5	.....Voice coil adjuster
267.5	.....Carriage detail	294.6	....Pivot structure detail
267.6	.....Guide detail	294.7	...Adjustment along rotational axis of disk
267.7	.....Screw mount detail		
267.8	.....Adjustable		
267.9	...Including shifting head to different disks		

241	.Tape record	317	..Combined with inductive write head in piggyback/merged configuration
241.1	..Plural head mounting on only one tape side	318	..Combined with inductive write head and having MR inside of inductive head
241.2	..Plural head mounting on opposite tape sides	318.1	...In horizontal head configuration
241.3	..Head urging detail	319	..Detail of magnetic shielding
244	.Disk record	320	..Detail of head insulation
244.1	..IC/circuit component on suspension element	321	..Having flux guide detail
244.2	..Load beam detail	322	..Detail of sense conductor
244.3	...Laminated beam	323	..Electrostatic Discharge (ESD) protection
244.4	...Nonmetallic beam	324	..Having Giant Magnetoresistive (GMR) or Colossal Magnetoresistive (CMR) sensor formed of multiple thin films
244.5	...Actuator mount region detail	324.1	...Having one film pinned (e.g., spin valve)
244.6	....Ball staking	324.11	....Detail of pinned film or additional film for affecting or biasing the pinned film
244.7	....Adhesive	324.12	....Detail of free layer or additional film for affecting or biasing the free layer
244.8	...Spring region detail	324.2	...Having tunnel junction effect
244.9	...Rigid intermediate section detail	325	..Having Anisotropic Magnetoresistive (AMR) sensor formed of multiple thin films
245	...Gimbal mounting region detail	326	..Having Giant Magnetoresistive (GMR) or Colossal Magnetoresistive (CMR) sensor formed of a single thin film
245.1	....Pivot/load button detail	327	..Having Anisotropic Magnetoresistive (AMR) sensor formed of a single thin film
245.2	...Assembly feature	327.1	...Detail of transverse and longitudinal biasing
245.3	..Gimbal detail	327.11	....In barber-pole configuration
245.4	...Attachment detail	327.2	...Detail of transverse biasing
245.5	...Integral with load beam	327.21	....Using a shunt
245.6	...Plural axis components	327.22	....Using a soft adjacent layer
245.7	...Motion limiter detail	327.23	....Using a permanent magnet
245.8	..Electrical connection detail	327.24	....Using conductor
245.9	...Flexible printed circuit type	327.3	...Detail of longitudinal biasing
246	...Noise reduction	327.31	....Using a permanent magnet
246.1	..Full contact suspension	327.32	....Using exchange couple biasing
246.2	...Slider detail	327.33	....Using conductor
246.3	...Pivot detail	328	.Magnetostrictive head
246.4	...Gimbal detail	114.01	.Read only detector using light for reading magnetically recorded information on tape
246.5	...Single head	114.02	..Light beam generator detail
246.6	..Plural heads for each disk side	114.03	...Focus detail
246.7	...Plural actuators		
246.8	..Offset heads on opposite sides of disk		
110	<b>HEAD</b>		
111	.Flux gate		
112	.Hall effect		
313	.Magnetoresistive (MR) reproducing head		
314	..Having multiple interconnected multiple film MR sensors (e.g., dual spin valve magnetoresistive sensor)		
315	..Having multiple interconnected single film MR sensors (e.g., dual magnetoresistive sensor)		
316	..Having multiple independent MR sensors		

114.04 ..Beam splitter detail  
 114.05 ..Readout detector detail  
 114.06 ...Focus detail  
 114.07 ...Circuit detail  
 114.08 ...Detector material detail  
 114.09 ...Mounting detail  
 114.1 ..Rotary head  
 115 ..Flux scanning  
 116 ..Cathode ray  
 117 ..Hand-held  
 118 ..Erase  
 119 ..Gap structure details  
 120 ..Spacer material  
 121 ..Plural gaps  
 122 ..Head surface structure  
 123 ..Head winding  
 124 ..For cross-talk prevention  
 125 ..Head core  
 126 ..Laminated  
 127 ..Nonmetallic  
 128 ..Head accessory  
 129 ..Housing  
 130.1 ..Record separator  
 130.2 ..Record guide  
 130.21 ...Tape record  
 130.22 ....Rotating head  
 130.23 .....Helical scan  
 130.24 .....Head drum details  
 130.3 ..Pressure element  
 130.31 ...Tape record  
 130.32 ....Element mounting details  
 130.33 ....Element in tape container  
 130.34 ...Disc record  
 131 **RECORD MEDIUM**  
 132 ..In container  
 133 ..For disk  
 134 ..Tape  
 135 ..Disk  
 136 ..Drum  
 137 **MISCELLANEOUS**

# **FOREIGN ART COLLECTIONS**

## **FOR 000 CLASS-RELATED FOREIGN DOCUMENTS**

Any foreign patents or non-patent literature from subclasses that have been reclassified have been transferred directly to FOR Collections listed below. These Collections contain ONLY foreign patents or non-patent literature. The parenthetical references in the Collection titles refer to the abolished subclasses from which these Collections were derived.

## **FOR 202 FLUID BEARING HEAD (360/102)**

## **FOR 203 .Flying head (360/103)**

## **FOR 204 HEAD MOUNTING (360/104)**

## **FOR 205 .For moving head into and out of transducing position (360/105)**

## **FOR 206 .For shifting head between tracks (360/106)**

## **FOR 207 .For moving head during transducing (360/107)**

## **FOR 208 ..Signal transfer to and from head (360/108)**

## **FOR 209 .For adjusting head position (360/109)**

## **FOR 213 MAGNETORESISTIVE OR MAGNETOSTRICTIVE HEAD (360/113)**

## **HEAD (340/110)**

## **FOR 214 .Magneto optic (360/114)**

# **CROSS-REFERENCE ART COLLECTIONS**

## **900 DISK DRIVE PACKAGING**

## **901 .Access time**

## **902 .Storage density (e.g., bpi, tpi)**

## **903 .Physical parameter (e.g., form factor)**

## **904 ..Weight**